REMARKS

In the above amendment, the specification has been amended to identify Applicants' priority application. Claim 15 has also been amended so as not to refer to now canceled claims.

Claims 30-112 have been added in the above amendment. In accordance with the requirements of 37 CFR 1.607(c) and MPEP 2307.05, the undersigned wishes to advise the Examiner that the now pending claims (by way of the present amendment and as originally filed) correspond exactly or substantially to claims 1-3, 8, 13-18, 20-54, 65-77, 117-119, 124, 127-134, and 136-153 of US Patent 6,261,801 issued July 17, 2001.

The amendments above are fully supported by the specification as filed, and accordingly, do not introduce new matter.

Applicants are providing herewith a substitute paper copy of the Sequence Listing, along with a Request to Use Computer Readable Sequence Listing Under 37 CFR 1.821(e). The sequence disclosures in the Sequence Listing are fully supported by the specification as filed, and as such, do not introduce new matter. Entry of the substitute Sequence Listing into the present specification is respectfully requested.

The amendments to the specification and claims are illustrated in the attached sheets entitled "Marked Up Version to Show Changes Made". For the Examiner's convenience, a clean copy of the now pending claims 15-21 and 30-112 are provided above.

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MARKED UP VERSION TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Please enter into the specification the attached substitute paper copy of the Sequence Listing which includes 16 pages and provides sequences identified as SEQ ID NOS: 1-17.

On page 1 of the specification, under the title on line 5, please enter the following paragraph:

--- Related Applications

This application is a continuation application of serial no. 08/878,168 filed June 18, 1997, the contents of which are incorporated herein by reference. ---

IN THE CLAIMS:

Please cancel claims 1-14 and 22-29 without prejudice.

Please amend claim 15 as follows:

15. (Amended) Isolated nucleic acid encoding [the] Apo-2DcR polypeptide [of claim 1 or the extracellular domain sequence of claim 5] comprising amino acid residues 30 to 161, 1 to 161, 1 to 236, or 1 to 259 of Figure 1A (SEQ ID NO:1).

Please add the following claims:

---30. An isolated nucleic acid molecule comprising a first polynucleotide sequence 95% or more identical to a second polynucleotide sequence selected from the group consisting of:

(a) a polynucleotide sequence encoding amino acids 1 to 259 of SEQ ID NO:1;

(b) a polynucleotide sequence encoding amino acids 30 to 259 of SEQ ID NO:1 and

(c) a polynucleotide sequence complementary to any of the polynucleotide sequences in (a) or (b).

31. The isolated nucleic acid molecule of claim 30 wherein said second polynucleotide sequence is (a).

32. The isolated nucleic acid molecule of claim 30 which comprises polynucleotide sequence (a).

33. The isolated nucleic acid molecule of claim 30 wherein said polynucleotide comprises a heterologous polynucleotide sequence encoding a Fc polypeptide.

34. A method for making a recombinant vector comprising inserting the isolated nucleic acid molecule of claim 30 into a vector.

35. A recombinant vector comprising the isolated nucleic acid molecule of claim 30.

36. The recombinant vector of claim 35 wherein said nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

37. A recombinant host cell comprising the isolated nucleic acid molecule of claim 30.

38. The recombinant host cell of claim 37 wherein said nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

39. A method for producing a polypeptide, comprising:
(a) culturing a host cell comprising the vector of claim 35 under conditions suitable to produce the polypeptide encoded by said nucleic acid; and
(b) recovering said polypeptide.

40. An isolated nucleic acid molecule comprising a first polynucleotide sequence 95% or more identical to a second polynucleotide sequence selected from the group consisting of:
(a) a polynucleotide sequence encoding an Apo-2DcR polypeptide having the complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 209087;
(b) a polynucleotide sequence encoding the mature Apo-2DcR polypeptide encoded by the cDNA clone contained in ATCC Deposit No. 209087; and
(c) a polynucleotide sequence complementary to any of the polynucleotide sequences in (a) or (b) above.

41. The isolated nucleic acid molecule of claim 40 wherein said second polynucleotide sequence is (a).

42. The isolated nucleic acid molecule of claim 40 which comprises polynucleotide sequence (a).

43. The isolated nucleic acid molecule of claim 40 wherein said second polynucleotide sequence is (b).

44. The isolated nucleic acid molecule of claim 40 which comprises polynucleotide sequence (b).

45. The isolated nucleic acid molecule of claim 40 wherein said second polynucleotide sequence is (c).

46. The isolated nucleic acid molecule of claim 40 which comprises polynucleotide sequence (c).

47. The isolated nucleic acid molecule of claim 40 wherein said nucleic acid molecule comprises a heterologous polynucleotide sequence.

48. The isolated nucleic acid molecule of claim 47 wherein said heterologous polynucleotide sequence encodes a polypeptide.

49. The isolated nucleic acid molecule of claim 48 wherein said heterologous polynucleotide sequence encodes a Fc polypeptide.

50. A method for making a recombinant vector comprising inserting the isolated nucleic acid molecule of claim 40 into a vector.

51. A recombinant vector comprising the isolated nucleic acid molecule of claim 40.

52. The recombinant vector of claim 51 wherein said nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

53. A recombinant host cell comprising the isolated nucleic acid molecule of claim 40.

54. The recombinant host cell of claim 53 wherein said nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

55. The isolated nucleic acid of claim 40, wherein said second polynucleotide sequence is selected from the group consisting of (a) and (b), and wherein said first polynucleotide sequence encodes a polypeptide.

56. A method for producing a polypeptide, comprising:
(a) culturing a host cell comprising the vector of claim 51 under conditions suitable to produce the polypeptide encoded by said nucleic acid; and
(b) recovering said polypeptide.

57. An isolated nucleic acid molecule comprising a first polynucleotide sequence 95% or more identical to a second polynucleotide sequence selected from the group consisting of:
(a) a polynucleotide sequence encoding a polypeptide comprising the amino acid sequence of residues m to 259 of SEQ ID NO:1, where m is an integer in the range of 1 to 53;
(b) a polynucleotide sequence encoding a polypeptide comprising the amino acid sequence of residues 1 to x of SEQ ID NO:1, where x is an integer in the range of 149 to 259; and
(c) a polynucleotide sequence encoding a polypeptide having the amino acid sequence consisting of residues m to x of SEQ ID NO:1, m and x are defined in (a) and (b) above;
wherein percentage identity is determined using computer software with parameters that calculate identity over the full length of the second polynucleotide sequence.

58. The isolated nucleic acid molecule of claim 57 wherein said second polynucleotide sequence is (a).

59. The isolated nucleic acid molecule of claim 57 which comprises polynucleotide sequence (a).

60. The isolated nucleic acid molecule of claim 59 which comprises a polynucleotide sequence encoding amino acids 30 to 259 of SEQ ID NO:1.

61. The isolated nucleic acid molecule of claim 57 wherein said second polynucleotide sequence is (b).

62. The isolated nucleic acid molecule of claim 57 which comprises polynucleotide sequence (b).

63. The isolated nucleic acid molecule of claim 57 wherein said second polynucleotide sequence is (c).

64. The isolated nucleic acid molecule of claim 57 which comprises polynucleotide sequence (c).

65. The isolated nucleic acid molecule of claim 57 wherein said nucleic acid molecule comprises a heterologous polynucleotide sequence.

66. The isolated nucleic acid molecule of claim 65 wherein said heterologous polynucleotide sequence encodes a polypeptide.

67. The isolated nucleic acid molecule of claim 66 wherein said heterologous polynucleotide sequence encodes a Fc polypeptide.

68. A method for making a recombinant vector comprising inserting the isolated nucleic acid molecule of claim 57 into a vector.

69. A recombinant vector comprising the isolated nucleic acid molecule of claim 57.

70. The recombinant vector of claim 69 wherein said nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

71. A recombinant host cell comprising the isolated nucleic acid molecule of claim 57.

72. The recombinant host cell of claim 71 wherein said nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

73. A method for producing a polypeptide, comprising:
(a) culturing a host cell comprising the nucleic acid molecule of claim 57 under conditions suitable to produce the polypeptide encoded by said nucleic acid; and (b) recovering said polypeptide.

74. An isolated nucleic acid encoding a polypeptide comprising 30 contiguous amino acids from amino acids 27 to 259 of SEQ ID NO:1.

75. The isolated nucleic acid of claim 74 which encodes a polypeptide comprising amino acids 30 to 259 of SEQ ID NO:1.

76. An isolated nucleic acid comprising a first polynucleotide sequence 90% or more identical to a second polynucleotide sequence selected from the group consisting of:
(a) a polynucleotide sequence encoding amino acids 1 to 259 of SEQ ID NO:1;
(b) a polynucleotide sequence encoding amino acids 30 to 259 SEQ ID NO:1; and
(c) a polynucleotide sequence complementary to any of the polynucleotide sequences in (a)or (b);
wherein percentage identity is determined using computer software with parameters that calculate identity over the full length of the second polynucleotide sequence and that allows gaps of up to 10% of the total number of nucleotides of said nucleotide sequence.

77. The isolated nucleic acid molecule of claim 76 wherein said second polynucleotide sequence is (a).

78. The isolated nucleic acid molecule of claim 76 which comprises polynucleotide sequence (a).

79. The isolated nucleic acid molecule of claim 76 wherein said nucleic acid molecule comprises a heterologous polynucleotide sequence.

80. The isolated nucleic acid molecule of claim 79 wherein said heterologous polynucleotide sequence encodes a polypeptide.

81. The isolated nucleic acid molecule of claim 80 wherein said heterologous polynucleotide sequence encodes a Fc polypeptide.

82. A method for making a recombinant vector comprising inserting the isolated nucleic acid molecule of claim 76 into a vector.

83. A recombinant vector comprising the isolated nucleic acid molecule of claim 76.

84. The recombinant vector of claim 83 wherein said nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

85. A recombinant host cell comprising the isolated nucleic acid molecule of claim 76.

86. The recombinant host cell of claim 85 wherein said nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

87. A method for producing a polypeptide, comprising:
(a) culturing a host cell comprising the vector of claim 83 under conditions suitable to produce the polypeptide encoded by said nucleic acid; and
(b) recovering said polypeptide.

88. An isolated nucleic acid molecule comprising a first polynucleotide sequence 90% or more identical to a second polynucleotide sequence selected from the group consisting of:
(a) a polynucleotide sequence encoding an Apo-2DcR polypeptide having the complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 209087;

(b) a polynucleotide sequence encoding the mature Apo-2DcR polypeptide encoded by the cDNA clone contained in ATCC Deposit No. 209087; and
(c) a polynucleotide sequence complementary to any of the polynucleotide sequences in (a) or (b) above;
wherein percentage identity is determined using computer software with parameters that calculate identity over the full length of the second polynucleotide sequence and that allows gaps of up to 10% of the total number of nucleotides of said nucleotide sequence.

89. The isolated nucleic acid molecule of claim 88 wherein said second polynucleotide sequence is (a).

90. The isolated nucleic acid molecule of claim 88 which comprises polynucleotide sequence (a).

91. The isolated nucleic acid molecule of claim 88 wherein said second polynucleotide sequence is (b).

92. The isolated nucleic acid molecule of claim 88 which comprises polynucleotide sequence (b).

93. The isolated nucleic acid molecule of claim 88 wherein said second polynucleotide sequence is (c).

94. The isolated nucleic acid molecule of claim 88 which comprises polynucleotide sequence (c).

95. The isolated nucleic acid molecule of claim 88 wherein said nucleic acid molecule comprises a heterologous polynucleotide sequence.

96. The isolated nucleic acid molecule of claim 95 wherein said heterologous polynucleotide sequence encodes a polypeptide.

97. The isolated nucleic acid molecule of claim 96 wherein said heterologous polynucleotide sequence encodes a Fc polypeptide.

98. A method for making a recombinant vector comprising inserting the isolated nucleic acid molecule of claim 88 into a vector.

99. A recombinant vector comprising the isolated nucleic acid molecule of claim 88.

100. The recombinant vector of claim 99 wherein said nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

101. A recombinant host cell comprising the isolated nucleic acid molecule of claim 88.

102. The recombinant host cell of claim 101 wherein said nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

103. The isolated nucleic acid molecule of claim 88 wherein said second polynucleotide sequence is selected from the group consisting of (a) and (b), and wherein said first polynucleotide sequence encodes a polypeptide.

104. A method for producing a polypeptide, comprising:
(a) culturing a host cell comprising the vector of claim 99 under conditions suitable to produce the polypeptide encoded by said nucleic acid; and
(b) recovering said polypeptide.

105. Isolated nucleic acid encoding Apo-2DcR polypeptide, wherein said Apo-2DcR polypeptide has at least 80% identity to the sequence of

amino acid residues 1 to 259 of Fig. 1A (SEQ ID NO:1) and said Apo-2DcR polypeptide binds Apo-2 ligand.

106. The nucleic acid of claim 105 wherein said Apo-2DcR polypeptide has at least 90% identity to the sequence of amino acid residues 1 to 259 of Fig. 1A (SEQ ID NO:1).

107. The nucleic acid of claim 106 wherein said Apo-2DcR polypeptide has at least 95% identity to the sequence of amino acid residues 1 to 259 of Fig. 1A (SEQ ID NO:1).

108. A vector comprising the nucleic acid of claim 105.

109. The vector of claim 108 operably linked to control sequences recognized by a host cell transformed with the vector.

110. A host cell comprising the vector of claim 108.

111. A process of using a nucleic acid molecule encoding Apo-2DcR polypeptide to effect production of Apo-2DcR polypeptide comprising the host cell of claim 110.

112. Isolated nucleic acid encoding Apo-2DcR polypeptide, wherein said Apo-2DcR polypeptide (a) is a fragment of the sequence of amino acid residues 1 to 259 of Fig. 1A (SEQ ID NO:1), (b) lacks a transmembrane domain, and (c) binds Apo-2 ligand. ---